What Is Claimed Is:

1. A light waveguide forming method comprising the steps of:

disposing a light waveguide forming substrate having a conductive thin film and a photosemiconductor thin film in this order on an insulative substrate so that at least the photosemiconductor thin film of the light waveguide forming substrate is in contact with an aqueous electrolyte solution containing film forming material having a property that solubility or dispersibility in a water solution decreases according to change of its pH; and

applying a voltage between a selected region of the photosemiconductor thin film and a counter electrode by irradiating the selected region of the photosemiconductor thin film with light to deposit the material on the selected region of the semiconductor thin film.

2. A light waveguide forming method comprising the steps of:

disposing a film deposition substrate having a conductive thin film, an photosemiconductor thin film, and a peel layer in this order on an insulative substrate so that at least the photosemiconductor thin film of the film deposition substrate is in contact with an aqueous electrolyte solution containing film forming material having a property that the solubility or dispersibility in a water solution decreases according to change of its pH;

applying a voltage between a selected region of the photosemiconductor thin film and a counter electrode by irradiating the selected region of the photosemiconductor thin film with light to deposit the material on the selected region of the semiconductor thin film; and

transferring the deposited material onto a light waveguide forming substrate.

3. The light waveguide forming method according to claim 1, wherein a clad layer is formed on the photosemiconductor thin film by use of a clad layer forming electrolyte solution, and a core layer is formed on the clad layer by use of a core layer forming electrolyte solution without drying the clad layer.

4. The light waveguide forming method according to claim 3, wherein without drying the clad layer and the core layer, another clad layer is formed on the core layer by use of a clad layer forming electrolyte solution.

5. The light waveguide forming method according to claim 3, wherein the clad layer is formed on an entire surface of the photosemiconductor thin film by means of electrodeposition technique by applying a voltage higher than Schottky barrier of the photosemiconductor thin film of the light waveguide forming substrate without light irradiation.

6. The light waveguide forming method according to claim 1, wherein the light waveguide forming substrate comprises a laminate having a photosemiconductor thin film on a conductive substrate.

7. The light waveguide forming method according to claim 1, wherein the conductive thin film is made of a conductive material, the conductive material being at least any one selected from a group including iron, a compound of iron, nickel, a compound of nickel, zinc, a compound of zinc, copper, a compound of copper, titanium, a compound of titanium, and mixtures of these materials.

8. A light waveguide forming method comprising the steps of:

disposing a light waveguide forming substrate having a conductive thin film or a patterned conductive thin film on an insulative substrate so that the conductive thin film or the patterned conductive thin film of the

light waveguide forming substrate is in contact with an aqueous electrolyte solution containing film forming material having a property that solubility or dispersibility in a water solution decreases according to change of its pH; and

applying a voltage between the conductive thin film or the patterned conductive thin film and a counter electrode to deposit the film forming material on the conductive thin film.

9. A light waveguide forming method comprising the steps of:

disposing a film deposition substrate having a conductive thin film or a patterned conductive thin film, and a peel layer in this order on an insulative substrate so that at least the conductive thin film or the patterned conductive thin film of the film deposition substrate is in contact with an aqueous electrolyte solution containing film forming material having a property that solubility or dispersibility in a water solution decreases according to change of its pH;

applying a voltage between the conductive thin film or the patterned conductive thin film and a counter electrode to deposit the film forming material on the conductive thin film; and

transferring the deposited film forming material onto a light waveguide forming substrate.

10. The light waveguide forming method according to claim 1, wherein the film forming material having a property that solubility or dispersibility in a water solution decreases according to change of its pH is a polymer material.

11. The light waveguide forming method according to claim 3, wherein the clad layer forming electrolyte solution contains a polymer material, and the core layer forming electrolyte solution contains the

polymer material and particles having a refractive index higher than that of the polymer material.

12. The light waveguide forming method according to claim 3, wherein the core layer forming electrolyte solution contains a polymer material, and the clad layer forming electrolyte solution contains the polymer material and particles having a refractive index lower than that of the polymer material.

13. The light waveguide forming method according to claim 3, wherein the clad layer forming electrolyte solution contains a polymer material and particles having a refractive index lower than that of the polymer material, and the core layer forming electrolyte solution contains the polymer material and particles having a refractive index higher than that of the polymer material.

14. The light waveguide forming method according to claim 1, wherein the light waveguide forming substrate serves as an anode, and the applied voltage is equal to or lower than 5 V.

15. The light waveguide forming method according to claim 1, wherein a light waveguide is heated after the step of forming the light waveguide, and wherein the film forming material contains a polymer material.

16. An electrolyte solution used in a light waveguide forming method containing a film forming material having a property that solubility or dispersibility in a water solution decreases according to change of its pH, wherein the film forming material has hydrophobic groups and hydrophilic groups, and the percentage of the number of hydrophobic groups to the total number of hydrophilic groups and hydrophobic groups is in a range from 30 % to 80 %.

17. The electrolyte solution according to claim16, further comprising particles for controlling a refractive index.

18. A light waveguide forming apparatus for forming a light waveguide, comprising:

a light source that applies light;

an image forming optical system that has a first image forming lens and a second image forming lens;

a photomask inserted between the first image forming optical lens and the second image forming optical lens;

a counter electrode,

a unit that is capable of applying a bias voltage; and

an electrodeposition tank filled with an electrolyte solution.

19. A light waveguide having a core and a clad, at least one of the core and clad including an electrodeposited polymer material.